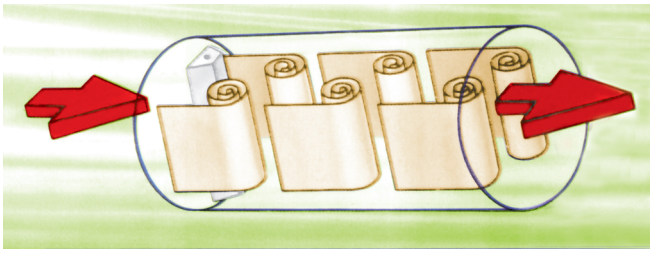
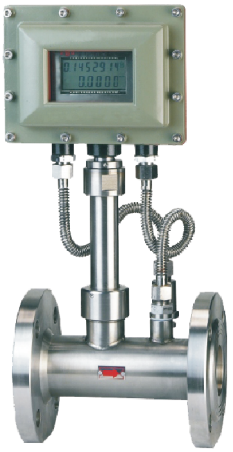
F4001
Vortex Shedding Flowmeter

Description

F4001 Vortex Shedding Flowmeter is designed according to the principle of Karman Vortex Street, and is widely used to measure liquid, gas, steam flow in the closed pipeline.



Picture 1



Features

- Compact structure
- With DSP transmitter
- No moving parts, high reliability, thus few on-site maintenance is needed
- No direct contact between the sensing element and the medium
- Easy installation and maintenance
- Turndown ratio is up to 1:20
- Low pressure drop and operation cost
- High temperature application

Specification

- Working Pressure: 1.6 to 6.4MPa
- Medium Temperature: -40℃ to 300℃
- Power Supply: 12 to 36VDC
- Ambient Temperature: -25℃ to 60℃
- Relative Humidity: 5% to 95RH%
- Atmospheric Pressure: 86 to 106kPa
- Medium:liquid, gas or steam
- Accuracy: ±1% (For liquid), ±1.5% (For gas)
- Output: pulse, 4 to 20 mA, RS485
- Reynolds No. Range: 2x10 to 7x10（25mm to 100mm）
  4x10 to 7x10（150mm to 300mm）

Application

- Sewage Treatment
- Heat Exchangers, Cooling Systems
- Oil Field Metallurgy
- Chemical Industry, Petrol-chemical Light Industry
- Food Beverage Dispensing
- Pharmaceutical Industry
- Process Control
- Other Field Use

GPE Inc.

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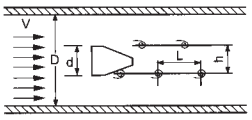
Vortex Shedding Flowmeter

Principle

If insert a bluff body vertically into the flowing fluid,vortexes will be generated alternatively at its sides.These vortexes follow together with the fluid to the down stream,and form series vortexes (Karman vortex street,see Picture1).The bluff body which the generates vortex is called as vortex shedder.Experiment proves that frequency of vortex is in directly proportional to flow velocity it can be shown as following formula

$$f = Sr \frac{V}{(1 - \frac{4d}{\pi D})d}$$



Picture 2 Diagram of vortex formed

f-Vortex frequency
d-Width of bluff body which face against the flow
Sr-Strouhol number
V---Average flow velocity in the pipe
D---Inside diameter of pipe

Model Selection

F4001 – □□ □□ □ □ □ □ □ □

		1	2	3	4	5	6	7	8	
Type		Size	Trans mitter	PN	Connection	Protection	Output Signal	Indicactor	Compensation	Note
F4001	-									Vortex Flowmeter
		02								25mm
		04								40mm
		05								50mm
		08								80mm
		10								100mm
		12								125mm
		15								150mm
		20								200mm
		25								250mm
		30								300mm
			CL							Compact Version for Liquid
			CG							Compact Version for Gas
			CH							Compact Version for High Process Temperature(250℃)
			CX							Compact Version for High Process Temperature(350℃)
			RH							Remote Version (250 ℃)
			RX							Remote Version (350 ℃)
				016						Nominal Pressure:1.6MPa
				025						Nominal Pressure:2.5MPa
				040						Nominal Pressure:4.0MPa
				063						Nominal Pressure:6.3MPa
				160						Nominal Pressure:16MPa
				250						Nominal Pressure:25MPa
				320						Nominal Pressure:32MPa
					W					Wafer Connection
					F					Flange Connection
						A				General
						B				Explosion-proof
							F			Pulse Output
							I			4-20mA Output
							R			RS485
								O		None Indicator
								X		With Indicator(LCD without backlight)
								Y		With Indicator(LCD with backlight)
									O	No temperature and pressure compensation
									T	With temperature and pressure compensation

Example:F4001-05CL016WBFXO Means:DN:50mm,Compact Version, Measure liquid,Wafer Connection,Nominal Pressure:1.6MPa,Explosion-proof version,Pulse Output,With local instant and total flow LCD display, No temperature and pressure compensation.

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